

April 20th First Period

Used calculators to explore the exponential function $y = a(b)^x$.

Create a table of values.

Graph a variety of values

1. Positive a. $b > 1$ $y = 2(3^x)$

- Calculator Keystrokes

- *press* $Y =$ and then *enter* $2(3^x)$

- *press* **GRAPH** to plot the exponential function

- *press* **2nd** **GRAPH** for the Table Values (See the word TABLE in orange)

2. Negative a. $b > 1$ $y = -2(3^x)$

- Calculator Keystrokes

- *press* $Y =$ *Press* **(-)** button *and then enter* $2(3^x)$

- *press* **GRAPH** to plot the exponential function

- *press* **2nd** **GRAPH** for the Table Values (See the word TABLE in orange)

3. Positive a. $0 < b < 1$ $y = 2(0.5^x)$

- Calculator Keystrokes

- *press* $Y =$ *ress* **(-)** button *and then enter* $2(3^x)$

- *press* **GRAPH** to plot the exponential function

- *press* **2nd** **GRAPH** for the Table Values (See the word TABLE in orange)

4. Negative a. $0 < b < 1$ $y = -2(0.5^x)$

- Calculator Keystrokes

- *press* $Y =$ *Enter the function* $2(0.5^x)$

- *press* **GRAPH** to plot the exponential function

- *press* **2nd** **GRAPH** for the Table Values (See the word TABLE in orange)

Calculator Buttons

$Y =$ **GRAPH** " **2nd** **GRAPH** "

 ^ Exponent (or Power) Symbol **(-)** Negative Sign

Create a Table and Fill in the Values from the Calculator

Write the answers in the form of (x, y) coordinate Points

x	$y = 2(3^x)$	y	(x, y)
-1	$y = 2(3^{-1})$	$\frac{2}{3} = 0.667$	$(-1, \frac{2}{3})$
0	$y = 2(3^0)$	2	$(0, 2)$
1	$y = 2(3^1)$	6	$(1, 6)$